

SCREWLESS TUB/SHOWER TRIM MOUNTING SYSTEM

BACKGROUND OF THE INVENTION

[0001] This invention relates to a system wherein the components providing the covering trim for a bath/shower valve are attached and adjustable without the use of screws.

[0002] Typically, bath or shower surrounds are provided with at least one mixing valve and a diverter valve. The mixing valve is utilized to control the mixture of hot and cold water which is delivered into the tub or from the shower. The diverter valve typically controls the flow of water to either the shower or the bath spout.

[0003] In the past, a cover member, called an escutcheon, covers the valve and provides the outermost trim member. Typically, an inner valve housing within the wall is provided with a mounting bracket. The mounting bracket receives screws from the escutcheon. While screws can be made to be attractive or decorative, the screws themselves may still detract from the desired overall outer appearance.

[0004] Various systems have been proposed wherein the escutcheon simply is received on an outer peripheral surface of a valve member. However, these systems have not provided a way for tightly securing the escutcheon to the valve assembly and against the wall.

[0005] Further, in many of the known valve trim systems, the escutcheon provides the function of securing the valve within its housing. Thus, the escutcheon needs to be placed upon the wall at a relatively early point in the construction of the bath or shower surround. Since the escutcheon is thus attached during a good deal of construction, there is the possibility of damage to the escutcheon.

[0006] The proposed invention includes an escutcheon that can be attached to a valve assembly without any screws, and wherein the valve is secured within its housing by a member which would not ultimately be exposed.

SUMMARY OF THE INVENTION

[0007] In the disclosed embodiment of this invention, the escutcheon is attached to an adjustment adapter. The adapter is adjustable to pull the escutcheon tightly against the wall creating the bath or shower surround. This adjustment can be done after completion of other construction on the bath or shower surround. Further, the adapter itself is not attached to the valve housing through screws, but rather through an enlarged threaded surface.

[0008] Thus, no screws are required. Further, the escutcheon can be attached and ultimately adjusted after the completion of other construction.

[0009] In a more preferred embodiment of this invention, an adjustment member can extend into the adapter such that the adapter may be turned after attachment of the escutcheon and complete assembly. The adapter is thus turned relative to the valve housing to pull the escutcheon against the wall, and adjust for the particular size of the wall.

[0010] These and other features of the present invention can be best understood from the following specification and drawings, the following of which is a brief description.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] Figure 1A is a cross-sectional view of the inventive system.

[0012] Figure 1B shows the inventive system attached to a relatively thick wall.

[0013] Figure 1C shows the inventive system adjusted for a thinner wall.

[0014] Figure 2 is an exploded view of the inventive system.

[0015] Figure 3 shows a detail of the attachment of the escutcheon to its adapter.

[0016] Figure 4 shows a detail of the adapter.

[0017] Figure 5 shows a detail of the escutcheon.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0018] Figure 1A shows a valve assembly 20 for attachment into a wall 21 forming a bath and shower surround. One main component is a bracket 21 secured to the valve housing 22. In the past, this bracket was utilized to secure the great bulk of the members shown in this view. Typically, the components were screwed to the bracket 21. A plaster guard member 24 is received on the housing, and provides an abutting inner surface for the contacting the wall 21.

[0019] An escutcheon adapter 26 forms one of the inventive aspects of this invention. As shown, escutcheon adapter 26 has threads 28 at an inner surface received on threads 29 on the valve housing 22. This threaded connection allows adjustment of the adapter, and as will be explained, the escutcheon without the need for any screws being visible from outward of the final valve assembly 20.

[0020] A plate 30 is received on the outer periphery of the adapter 26, and the escutcheon 32 is positioned outwardly of the plate 30. Escutcheon 32 includes a lip 34 on an axially inwardly extending boss 35. Lip 34 snaps within a groove 36 at an outward end of the adapter 26. A trim sleeve forms an adjustment element 38. Element 38 has a groove 44 fitting onto a tab 42 on the inner peripheral surface of the adapter 26.

[0021] As shown in Figure 1B, wall 21 is relatively thick. If one looks at the relative position of the threaded connections between threads 28 and 29, and compares it to the position in Figure 1C showing a thin wall, one can appreciate the adjustability of the inventive system. In Figure 1C, the wall is not shown, or shown as infinitely thin. However, the point is that the invention allows adjustment. Essentially, after assembly of the valve, the element 38 is turned to drive the adapter 26 along the housing 22. During this movement, the escutcheon 32 is pulled inwardly until it sits snug against the wall 21. At that point, the element 38 forms a trim sleeve for the valve 14, shown schematically in Figure 1A. Thus, the escutcheon is tightly secured against the wall, but still has an aesthetically pleasing outer appearance.

[0022] As can further be appreciated in Figure 1A, a locking nut 13 is held on housing 11. As further can be appreciated from Figure 1, the diverter valve 12 is held within the housing via a threaded connection. Notably, this invention extends to valve assemblies without a diverter valve.

[0023] As can be appreciated from Figure 2, the housing 22 includes the bracket 21 and the threads 29 on a boss portion 10. The valve 14 is received within an opening in the housing as is the diverter valve 12. The locking ring 13 is screwed onto threads 11 at an outer end of the housing 22.

[0024] The plaster guard 24 sits radially spaced from outer boss 10 of the housing 20.

[0025] The adapter 26 includes the tab 42 and the threads 28. As can be appreciated from this figure, the outer end of the adapter 26 has a plurality of gaps 40 between circumferentially spaced portions 41. These portions 41 provide the groove 36.

[0026] The trim sleeve 38 carries a slot 44, and the plate 30 and escutcheon 32 are positioned outwardly of the adapter as can be appreciated from Figures 1A-1C.

[0027] Figure 3 shows features of the adapter 26 received on threads 29 of the housing 22. The lip 34 is received within the groove 36 to hold and carry the escutcheon 22 when the adapter is driven. The groove 36 and the threads 28 can be better seen in Figure 4.

[0028] Figure 5 shows the lip 34 on the inwardly extending neck 35 of the escutcheon 32.

[0029] Although preferred embodiments of this invention have been disclosed, a worker of ordinary skill in the art would recognize that certain modifications would come within the scope of this invention. For that reason, the following claims should be studied to determine the true scope and content of this invention.